

Planning Division  
Environmental Branch

Mr. David Bernhart  
National Marine Fisheries Service  
Southeast Regional Office  
Protected Resources Division  
263 13<sup>th</sup> Ave South  
St. Petersburg, Florida 33701

Dear Mr. Bernhart:

Please find attached the Fiscal Year 2005 Annual Report for sea turtle monitoring in association with the use of hopper dredges on the Atlantic Coast in the Jacksonville District.

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation - Biological Opinion for the "Continued use of hopper dredging of channels and borrow areas in the southeastern United States". (No Consultation Number provided) dated September 25, 1997 (that incorporates the August 25, 1995 Biological Opinion for these activities). Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2005 within the Jacksonville District, is submitted in compliance with reasonable and prudent measure No. 6 - Reporting found in the August 25, 1995 Opinion.

If you have any questions, please contact Ms. Terri Jordan at 904-232-1817 or by email at Terri.1.Jordan@saj02.usace.army.mil.

Sincerely,

Stuart J. Applebaum  
Chief, Planning Division

Enclosure

Copy Furnished:

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ANNUAL SEA TURTLE MONITORING REPORT  
JACKSONVILLE DISTRICT  
FOR ATLANTIC COAST PROJECTS  
MAINTENANCE DREDGING - FISCAL YEAR 2005

INTRODUCTION

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation - Biological Opinion for the “Continued use of hopper dredging of channels and borrow areas in the southeastern United States”. (No Consultation Number provided) dated September 25, 1997 (that incorporates the August 25, 1995 Biological Opinion for these activities). Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2004 within the Jacksonville District, is submitted in compliance with reasonable and prudent measure No. 6 – Reporting found in the August 25, 1995 Opinion.

The following hopper maintenance dredging/shore protection projects were started in FY 2004, but extended into FY 05.

St. John’s River – Jacksonville Harbor	August 20, 2004 – November 9, 2004
Palm Beach Harbor - Emergency	September 16, 2004 – October 14, 2004
Canaveral Entrance Channel – Emergency	September 12, 2004 – October 6, 2004

The following hopper maintenance dredging/shore protection projects (or the portion of the project that used a hopper dredge) were completed in FY 2005.

Kings Bay Entrance Channel	10 February 2005 – 15 March 2005
Port Everglades O&M	August 9 – August 15, 2005
Martin County Shore Protection Project	27 March 2005 – 23 April 2005
Brevard County Shore Protection Project	19 March 2005 – 14 May 2005
Patrick AFB	7 March 2005 – 19 March 2005
Ft. Pierce Beach – Emergency	April 28, 2005 – June 4, 2005
Duval County Shore Protection Project	June 10, 2005 – August 7, 2005

The following hopper maintenance dredging/shore protection projects were started in FY 2005, but extended into FY 06.

Broward County Shore Protection Project	May 14, 2005 – ongoing
Hallandale Beach, Hollywood, Dania Beach	May 14, 2005 – November 4, 2005

The use of hopper dredges to maintain these navigation and shore protection projects is necessary because of three factors: safety, weather conditions and productivity. These factors are closely interrelated; however, the emphasis is placed on safety. For instance at Kings Bay – due to the rough seas, all types of dredges, except for hopper dredges, have been forbidden to work in the area.

The dredges operating in navigation channels must be highly mobile to rapidly maneuver out of the way of other vessels. Pipeline cutterhead dredges are not self-propelled, and are held into position with spuds. Furthermore, the swing of the cutterhead is controlled by cables attached to the cutterhead arm. These cables are anchored along the outer limits of the channel to be dredged. Prior to moving the dredge, tenders must raise the anchors, and a towboat must be fastened to the dredge. These characteristics prevent the pipeline dredge from quickly moving out of the channel when other vessels approach. From a practical standpoint, dredges are generally not relocated for normal ship traffic; rather, dredging may be interrupted, but the dredge remains a stationary obstruction in half of the channel. This situation is encountered in inland bays and waterways. The use of hopper dredges along the Atlantic coast avoids such a stationary obstruction.

Weather conditions also affect the safety of the dredge and crew. Pipeline dredges were not designed to operate in open-sea conditions, and most shore protection projects borrow areas require vessels that can operate in open-sea conditions. Due to the reasons stated above, these dredges cannot rapidly demobilize in harsh weather, for example, as a hurricane approaches. The pipelines used to transport the dredged material to the placement sites would also be highly susceptible to breaking during rough weather. Even in relatively sheltered bays, cutterhead dredges often stop dredging in rough weather, and during frontal passages. During these periods, only water is pumped to keep tension on the pipelines to prevent breaking. In the open Atlantic Ocean, this precaution would not be effective, even if it were possible to leave the dredge offshore. During relatively calm weather conditions, only the largest cutterhead dredges would be able to operate efficiently. Sea swells make it difficult to control the depth of the cutterhead; consequently, this affects the dredging operation.

Productivity of the dredging operation is important because the purpose of dredging is to remove shoals and provide a safe depth for waterborne traffic. The use of pipeline dredges in the open Atlantic Ocean would result in frequent relocations, or other interruptions, due to weather and traffic conditions. Consequently, it would take longer to remove shoals, which present a hazard to safe navigation. The longer the time to remove the shoals, the longer a dredge must be on site to maintain the channel. The presence of the dredge and pipeline, themselves, present an obstruction to safe navigation. For these reasons, hopper dredges are used to maintain deep-draft entrance channels and construct many shore protection projects in the Jacksonville District.

The Jacksonville District schedules hopper-dredging operations during the required December 1 through April 15 window, for Kings Bay, Jacksonville (St. John's River and Mayport), St. Augustine and Ponce de Leon Inlet. However, it is impossible to schedule all hopper-dredging projects during this time frame, due to the availability of the hopper dredge fleet. Hopper dredging priorities for the Jacksonville District are developed in concert with other Corps of Engineers Districts that conduct these operations along the Atlantic and Gulf Coasts. The priorities are determined after considering the dredging needs and resident sea turtle populations within the various Districts.

#### TURTLE MONITORING PROGRAM

A result of the consultation process was the requirement to document turtle takes by the dredges. In order to accomplish this task, before hopper dredging operations commenced, they were equipped such that all inflows and overflows would be screened. The configuration and location of the screens depends upon the construction of the dredge. The starting mesh size of this screening is 4-inches by 4-inches. Additionally, around-the-clock monitoring by NMFS-approved turtle inspectors was conducted to identify any turtles or turtle parts that were caught on these screens. Draghead deflectors were also deployed to deflect any turtles that may happen to be in, or near, the path of the draghead during excavation. The design of the deflectors is such that a sediment riffle is created ahead of the draghead, cushioning any contact with turtles thereby preventing injuries.

The observers inspected and cleaned all inflow and overflow screening at the end of each load. Dragheads and deflectors were also inspected immediately after each load, and dredge personnel were informed if repairs were necessary. Data sheets were completed daily, detailing all biological samples and debris found in the screening and dragheads. The observers also recorded the start, end and discharge times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening, and any other pertinent information. Any sea turtle encounters or takes would be described on a separate incident report form. Additionally, all incidents would be photographed and diagrams would be made of the specimen. Once documentation has been collected, dead specimens are discarded by the NMFS-approved observer and disposed of at the dredged material placement site, thereby ensuring that these same samples would not wash ashore or be taken again by the dredge.

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours, except when the observer was off the bridge, cleaning and inspecting the screens and dragheads. All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook.

#### SCREEN CONFIGURATIONS

Turtle monitoring activities were conducted aboard nine different hopper dredges during FY 2005. These were the *Liberty Island*, *Eagle I*, *B.E. Lindholm*, *Stuyvesant*, *R.N. Weeks*, *Dodge Island*, *Manhattan*

*Island, Bayport, Atchafalaya*. Each of these vessels was required to have rigid draghead deflectors, and 100% inflow screening or overflow screening with openings starting at 4" x 4."

## PROJECTS

### **Continued from FY 2004**

Although there were three dredging projects that carried over from FY2004 – only one of them had a take of a sea turtle in FY2005. Details for the other two projects was detailed in the FY2004 Annual Report of Hopper Dredging Activities in the Jacksonville District.

### **Palm Beach Harbor O&M – Emergency Dredging**

#### *Bayport*

As stated in the FY2004 Annual Report of Hopper Dredging Activities in the Jacksonville District, dredging of the Palm Beach Harbor entrance channel had been completed in May 2004. The landfall of hurricanes Frances and Jeanne deposited a tremendous amount of sediment in the entrance channel and required an emergency dredging event to re-open the channel to commercial traffic. On September 16, 2004 the contract hopper dredge *Bayport* began work on the Palm Beach Harbor Operations and Maintenance Dredging project. The required depth of dredging was 35 feet below Mean Low Water (MLW, Corps of Engineers Datum), with 2 feet of allowable overdepth dredging inside the Entrance Channel. The contractor estimated that a total of 302,007 cubic yards (CY) was removed from the entrance channel during dredging operations.

Dredging began on September 16, 2004 and was completed on October 14, 2004. The dredge operated under a "rental contract". Instead of being paid by CY, the contractor is paid by the number of hours it takes to complete the project. In this case, it took the dredge 503 hours (21 working (not calendar) days) to remove the shoal. 158,707 CY of the material dredged was placed in a former borrow area three miles N.NE from the center point of Mid-town Beach, located south of the Palm Beach Harbor entrance channel; and 143,300 CY was placed in the nearshore in less than 17 feet of water.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, B&B Dredging.

During the performance of this dredging, one lethal turtle take occurred on October 8, 2004 by the *Bayport* during load #127 at 1208 hours. The sub-adult loggerhead of unknown sex was recovered in the starboard draghead. Surface water temperature at the time of take was 27.2°C. Surface water temperatures ranged from 27.7°C – 28.3°C.

## **Projects in FY 2005**

### **Kings Bay Entrance Channel**

#### *Stuyvesant, Manhattan Island*

On February 10, 2005 the contract hopper dredge *Stuyvesant* began work on the Kings Bay/Fernandina Harbor Entrance Channel. The contractor dredged 536,000 CY of shoal material. The required depth of dredging was 49 feet below Mean Low Water (MLW) with 2 feet of allowable overdepth dredging inside the Entrance Channel and 47 feet MLW with 2 feet of overdepth inside of the jetties.

Dredging began on February 10, 2005, and was completed on March 15, 2004. Two dredges were used to complete the project. The *Stuyvesant* dredged from February 10, 2005 – February 26, 2005 and the *Manhattan Island* dredged from March 5, 2005 – March 15, 2005. A total of 79 loads of dredged material were collected during 26 dredging days and deposited either on the beach downdrift of the channel, if the material was beach quality or in the EPA designated Ocean Dredge Material Disposal Site (ODMDS).

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Great Lakes Dock and Dredge Co. During the performance of this dredging, no lethal takes were observed. Surface water temperatures ranged from 10.5°C – 18.3°C for the life of the project.

### **Port Everglades Operation and Maintenance**

#### *Dodge Island*

On August 9, 2005 the contract hopper dredge Dodge Island began work on the Operations and Maintenance dredging of Port Everglades. Contract specifications required dredging an estimated 50,000 cubic yards (CY) of the North Turning Basin, but the actual amount dredged was 46,686 CY. The required depth of dredging was 31 feet below Mean Low Water (MLW) with 2 feet of allowable overdepth dredging.

Dredging began on August 9, 2005, and was completed on August 15, 2005. A total of 37 loads of dredged material were collected during seven (7) dredging days and deposited in the newly designated EPA ODMDS located approximately 4.5 miles northeast of Port Everglades Harbor.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a



4-inch square mesh. On August 10, 2005, the Corps authorized the contractor to switch to 100% outflow screening due to the amount of debris (mono-filament line, trash, sludge ) begin seen that was clogging the inflow screen. NMFS was notified on 11 August 2005 in an email from Paul DeMarco to Eric Hawk. On 12 August 2005, the contractor returned to 100% inflow screening. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Great Lakes Dock and Dredge Co. During the performance of this dredging, no lethal takes we observed. Surface water temperatures ranged from 30.0°C – 32.8°C for the life of the project.

### **Emergency Beach Restoration in Response to 2004 Hurricane Season**

The rare “clustering” of storm events that occurred in August and September 2004 had serious consequences on Florida’s Federal shore protection projects. These storm events included a tropical storm (Bonnie), a strong northeast storm, and four hurricanes (Charley, Frances, Ivan, and Jeanne) of Category 2 through Category 4 strength, which impacted Florida during the six week period from August 12th through September 26th, 2004. The storms’ impacts on Federal Shore Protection Projects (SPPs) resulted in a total lost of 8 million CY of sediments from 20 projects. These projects prevented an estimate of \$54 million in average annual damages; there was little or no damage to upland structures from erosion or direct wave impact at these project sites. Congress responded to these storm impacts with an emergency supplemental appropriation for the Corps of Engineers, Public Law 108-324. PL 108-324 provided \$148 million in Flood Control and Coastal Emergencies (FCCE) funding for the repair of Federal SPPs damaged by the storms. In addition, the appropriations act also provided \$62.6 million in Construction General funding; this allowed the Corps to cost share with the project sponsors on a full restoration of the SPPs if the sponsors desired to completely rebuild the project instead of just repairing the storm damage. Six of these projects on the Atlantic coast were rebuilt using a hopper dredge for all or some of project construction.

### **Martin County Shore Protection Project**

#### *Dodge Island*

On March 27, 2005 the contract hopper dredge *Dodge Island* began work on the Martin County SPP. Contract specifications required dredging an estimated 810,000 CY of beach quality sand to repair the damage from hurricanes Frances and Jeanne. Material was dredged from a nearshore shoal, approximately 3,000-4,000 feet southeast of the project area. An Emergency Project Implementation Report (PIR) for this project was completed on 17 December 2004 by the Jacksonville District.

Dredging began on March 11, 2005 and was completed on April 23, 2005. Two dredges were used to complete the project. The cutterhead dredge *Texas* was used from March 11 through April 10,

2005 and the hopper dredge *Dodge Island* dredged from March 27, 2005 – April 23, 2005. A total of 153 loads of beach quality (as defined by Florida Department of Environmental Protection (FLDEP)) sand were collected during 27 hopper dredging days and deposited on the Federally authorized shore protection project template.

Before hopper dredging operations began, two days of 24-hour pre-dredge risk assessment trawling was completed. The trawler F/V *Ashlee Michelle* completed 31 30-minute tows and relocated 10 loggerhead turtles from the project area. Surface water temperature during the risk assessment trawling was 22.7°C.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Great Lakes Dock and Dredge Co. During the performance of this dredging, no lethal takes were observed. Surface water temperatures ranged from 23.3°C – 25.5°C for the life of the project.

### **Brevard County Shore Protection Project**

*B.E. Lindholm/R.N. Weeks/Stuyvesant*

On March 19, 2005 dredging began for the Brevard County SPP. The three dredges that were contracted for this project were:

<i>B.E. Lindholm</i>	March 19, 2005 – May 14, 2005
<i>R.N. Weeks</i>	March 19, 2005 – April 26, 2005
<i>Stuyvesant</i>	March 28, 2005 – April 28, 2005

Contract specifications required dredging an estimated 900,000 CY of beach quality sand to repair the damage from hurricanes Frances and Jeanne. Material was dredged from Canaveral Shoals, located northeast of the project area, approximately 5 miles offshore. An Emergency Project Implementation Report (PIR) for this project was completed on 22 December 2004 by the Jacksonville District.

Dredging began on March 19, 2005 and was completed on April 28, 2005. A total of 421 loads of beach quality (as defined by FLDEP) sand were collected during 128 dredging days and deposited on the Federally authorized shore protection project template.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Great Lakes Dock and Dredge Co.

During the performance of this dredging, three lethal takes were observed. All occurred on the dredge *Lindholm*. The first was taken on April 26, 2005 and was an adult loggerhead found at 0215 hours in load #162. Surface water temperature at time of take was 21.1°C.

The second was taken on May 3, 2005 and was an adult loggerhead of unknown sex found at 1751 hours in load #210. Surface water temperature at time of take was 25.0°C.

The third and final take was on May 13, 2005 and was of unknown age and sex loggerhead found at 2101 hours in the starboard draghead during load #266. Surface water temperature at time of take was 26.1°C

### **Duval County Shore Protection Project**

#### *Eagle I*

On June 10, 2005 the contract hopper dredge *Eagle I* began work on the Duval County SPP. Contract specifications required dredging an estimated 708,310 CY of beach quality sand (as defined by FLDEP) to repair the damage from hurricanes Frances and Jeanne. 616,000 CY of material was dredged from a shoal located eight miles east of the St. John's River Inlet and managed by the Minerals Management Service. An Emergency Project Implementation Report (PIR) for this project was completed on 20 January 2005 by the Jacksonville District.

Dredging began on June 10, 2005 and was completed on August 7, 2005. The hopper dredge *Eagle I* dredged from June 10, 2005 – August 7, 2005. A total of 271 loads of beach quality sand were collected during 58 dredging days and deposited on the Federally authorized shore protection project template.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Bean Styvesant, LLC.

During the performance of this dredging, one lethal turtle take occurred on July 3, 2005 during load #103 at 1515 hours. The loggerhead was of unknown age and sex and was recovered from in the inflow screen. Surface water temperature at time of take was 26.1°C

## **Ft. Pierce Beach Shore Protection Project**

*R.N. Weeks*

On 28 April, 2005 the contract hopper dredge RN Weeks began work on the Ft. Pierce Beach SPP in St. Lucie County. Contract specifications required dredging an estimated 517,000 CY of beach quality sand (as defined by FLDEP) to repair the damage from hurricanes Frances and Jeanne. Material was dredged from Capron Shoal approximately 2-3 miles east of the project area. A 2002 EIS was completed on the original project borrow area due to the presence of unique bryozoans, and an emergency PIR was completed by the Jacksonville District on 22 December 2004.

Dredging began on April 28, 2005 and was completed on June 4, 2005. Two dredges were used to complete the project. A total of 321 loads of beach quality sand were collected during 38 dredging days and deposited on the Federally authorized shore protection project template.

Before hopper dredging operations began, two days of 24-hour pre-dredge risk assessment trawling was completed. The trawler F/V *Cheryl Lynn* completed 22 30-minute tows and relocated three (3) loggerhead turtles from the project area. Surface water temperature during the risk assessment trawling was 22.2°C.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by REMSA, Inc. under a subcontract to the dredging contractor, Weeks Marine. During the performance of this dredging, no lethal takes were observed.

## **Patrick AFB**

*R.N. Weeks/B.E. Lindholm*

Dredged under Department of Army permit #SAJ-1996-3789 (MOD-TBS) 27 Jan 2005. Although the Corps does not normally authorize Section 404 permit holders to use of the incidental take allotment for the SARBO, an exception was made for this project. First, the Air Force had already initiated and engaged in Endangered Species Act (ESA) consultation with NOAA Fisheries prior to the request to use the SARBO incidental take allotment. Second, this is part of an emergency action to respond to the need for shore protection rehabilitation in response to the recent, very active hurricane season. This decision was coordinated with NMFS in an email from Daniel Small to Eric Hawk dated January 25, 2005. The Corps reiterates our position that a distinction must be drawn for purposes of the SARBO between Corps-permitted hopper dredging *where the Corps is carrying-out work on behalf of a Federal entity*, and all other Corps-permitted work (non-federal, and federal where the Corps is not carrying out the hopper

dredging). In the former situation, we initiate and perform the ESA coordination, ensure the necessary oversight, etc. In the latter situation, the issues that the Corps has discussed with NOAA Fisheries in the context of the GRBO regarding permitted hopper dredging come into play. Generally, we do not believe that Federal entities pursuing Corps permits to carry-out work *on their own* are appropriately included under the SARBO, since they have not been involved in the regional consultation. In this particular case, however, given the fact that ESA consultation by the Air Force had already occurred, and the fact that this was emergency rehabilitation needing to be expedited, we were willing to concur with the use by the Air Force.

On March 7, 2005 the contract hopper dredge *RN Weeks* and *B.E. Lindholm* began work at Patrick Air Force Base (PAFB). Contract specifications required dredging an estimated 321,500 CY of beach quality sand (as defined by FLDEP) to repair the damage from hurricanes Frances and Jeanne. Material was dredged from Canaveral Shoal approximately 5 miles northeast of the project area.

Dredging began on March 7, 2005 and was completed on March 19, 2005. Two dredges were used to complete the project. A total of 131 loads of beach quality sand were collected during 24 dredging days and deposited on the permitted shore protection project template.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Weeks Marine, Inc. During the performance of this dredging, no lethal takes were observed. Surface water temperatures ranged from 12.2°C – 17.7°C for the life of the project.

### **Projects Begun in FY2005 – Continuing into FY2006**

#### **Broward County Shore Protection Project**

##### *Liberty Island*

On May 14, 2005 the contract hopper dredge *Liberty Island* began work on the Broward County SPP. Contract specifications required dredging an estimated 1.3 million CYs of beach quality sand (as defined by FLDEP) to repair damage from hurricanes Frances and Jeanne as well as complete the authorized renourishment of Segment III of the Broward County SPP. An EIS for this renourishment was completed in June 2003 and an emergency PIR was completed by the Jacksonville District on 8 February 2005.

Dredging began on May 14, 2005 and was completed on November 4, 2005 for the southern portion of the project area defined by Hallendale, Hollywood and Dania Beaches. The northern portion of

the project area, John U. Lloyd State Park will begin in December 2005 and information on that portion of the project will be covered in the FY2006 Annual Report. Material was dredged from five borrow areas located northeast of the project area and enumerated in the EIS and PIR. A total of 290 loads of beach quality sand were collected and deposited on the Federally authorized shore protection template. The project was shut down numerous times due to hurricanes approaching the project area throughout the construction period.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise Consulting, Inc. under a subcontract to the dredging contractor, Great Lakes Dock and Dredge Co. During the performance of this dredging no lethal turtle takes occurred.

## COSTS

The costs incurred in performing the turtle-monitoring program during FY 2005 include the costs for equipping and maintaining screens and draghead deflectors on contractor-owned dredges, as well as providing NMFS-approved observers and relocation trawling. In addition to the direct costs are District costs for administration and oversight. Table #1 depicting the costs of monitoring, relocation trawling and dredge inspection for FY 2005. However, this table does not include costs of administration and oversight activities conducted by SAJ staff, or the unquantifiable costs associated with decreased dredging efficiency which may result from the use of the draghead deflectors, and downtime experienced during cleaning of excessively fouled screens. Estimates of these increased costs are anticipated by the potential contractors during the preparation of bids, and there is no way to determine the actual value of these costs.

## SUMMARY

During Fiscal Year 2005, eleven maintenance-dredging or beach re-nourishment projects were constructed using hopper dredges. Six turtles were taken lethally by the projects conducted in FY2005. Table #2 summarizes lethal turtle encounters.

Thirteen turtles were relocated during relocation trawling efforts.

TABLE #1  
 COSTS ASSOCIATED WITH PROTECTION OF SEA TURTLES  
 DURING HOPPER DREDGING  
 JACKSONVILLE DISTRICT  
 MAINTENANCE DREDGING – ATLANTIC COAST PROJECTS  
 FY2005

PROJECT	COST OF MONITORING	COST OF RELOCATION EFFORTS	COSTS OF INSPECTIONS
Kings Bay Entrance Channel	\$14,740		\$1,000
Martin County Shore Protection Project	\$13,500		
Patrick AFB			\$1,000
Ft. Pierce Shore Protection Project	\$19,000	\$7,000	
Brevard County Shore Protection Project	\$64,000	\$49,344.00	\$5,000
Duval County Shore Protection Project	\$50,000	\$22,400	\$1,000
Broward County Shore Protection Project	\$50,000		\$6,000
Port Everglades O&M	\$2,000		
TOTAL	\$213,240	\$78,744	\$14,000

TABLE #2  
INCIDENTAL TAKES OF SEA TURTLES  
JACKSONVILLE DISTRICT  
MAINTENANCE DREDGING – ATLANTIC COAST PROJECTS

FY 2005

Date Taken	Project	Dredge	Channel Reach	Water Temp. (°C)	Species and Authorized Incidental Take per Fiscal Year			
					Kemp's ridley 7	Loggerhead 35	Green 7	Hawksbill 1
08 Oct 2004	PBH	<i>Bayport</i>	26°96.370' N, 80°01.793' W	27.2		1		
26 Apr 2005	PBH	<i>Atchafalaya</i>	26°96.27 N, 80°96.43' W	23.3		1		
26 Apr 2005	Brevard	<i>B.E. Lindholm</i>	28°25.80' N, 80°27.143' W	21.1		1		
03 May 2005	Brevard	<i>B.E. Lindholm</i>	28°23.858' N, 80°26.655' W	22.8		1		
13 May 2005	Brevard	<i>B.E. Lindholm</i>	28°24.208' N, 80°26.216' W	23.9		1		
03 July 2005	Duval	<i>Eagle 1</i>	30°21.299' N, 81°15.899' W	26.1		1		
TOTAL TAKE					0	6	0	0
ALLOWABLE TAKE REMAINING					7	29	7	1







**ANNUAL SEA TURTLE MONITORING REPORT  
MAINTENANCE DREDGING  
ATLANTIC COAST – Under SA RBO  
JACKSONVILLE DISTRICT  
FISCAL YEAR 2005**